Page 1

November-12-12 3:29:41 PM

Item ID: 649.4811

Accept

N900040100

Setup Start

Revision 1D:

Start Date:

Item Name: Clip

Required Date: 03/12/2012

12/11/2012 **Start Qty: 10.00**

10

Cust Item ID:

Customer:

Reference:

Approvals:

Req'd Qty: 10.00

Process Plan: MLJ Date: 12-11-13 Tooling:

Date:

Run

Date: SPC(Y/N):

Date:

Stop

NIP2

								ΙΔ	K/
Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr						- 1		
649.4800	A								
110		0.00						- F	
110 Waterjet FLOW CNC Waterjet	Memo 1-Cut as per Dwg	0.00							
2624.063	Dwg Rev: Prog Rev:					(%)		*	B12-11-17
	2-Deburr if necessary								

120

QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Memo

0.00

Quality Control

											DQA:	Date:	•
NCR:	Yes	/ No				WORK ORDER NON-	-COI	NFORI	MANCE / UP	DATE	QA Closed:	Date:	
2011						DISPOSITION	_			ACAINST DE			
Nork Ord	er:					DISPOSITION				AGAINST DE	PARTIVICINI	PROCESS	
Part	No.					Rework Scrap Use-as-is			Skid-tube Machining noforming	Crosstube Small Fab Finishing	4	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR	No.			·		Work Order Update		illem	Large Fab	Composite	, Rec/stor	Supplier	Other
Root					Descri	iption of work order update		Initial	Act	tion	Sign &		
Cause		Date	Step	Qty	(or Non-conformance	Ch	nief Eng	Desci	ription	Date	Verification	QC Inspector
oc/Data						,							
quip/Tooling												,	
perator													
laterial	L												
etup													
ther													
rocess	L												
upplier									•				
raining													
napproved													
							FAUL	T CATE	GORY				
Land	ng (Gear				General		-			_		
		Bending				Bend		Grain			Ovalized		Pressure/Forced
		Centre No	t Concer	ntric to O/S	_	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
		Cracks			L	Broken/Damaged	<u> </u>	Inspecti	on Incomplete		Part Incorre	ct	Weld
	$oxed{oxed}$	Crushed/0	Crimped,			Burrs		Instruct	ions Incomplete/l	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	L	Cuffs				Contamination		Mainte	nance		Part Moved		
		Heat Trea	t			Countersink		Mislabe	led		Positioned V	Vrong	_
		Inspection	Strip in	Tube		Cut Too Short		Misread	l		Power Loss/	Surge	Other
		Ripples in	Bend		L	Drill Holes		Offset					
		Torque W	aves in E	xtrusion		Drawing		Out of 0	Calibration				
		Turning Se	equence			Finish		Out of s	equence				

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Wave/Twist in Tube

Memo

November-12-12 3:29:41 PM

Quality Control

Item ID: 649.4811 Accept *N900040100* Setup Start *NS1* **Revision ID:** Item Name: Clip **Start Date: Start Otv:** 10.00 *10* 12/11/2012 **Cust Item ID: Required Date:** 03/12/2012 Req'd Otv: 10.00 Customer: Reference: Run Process Plan: Approvals: Date: Tooling: Date: Stop Date: SPC(Y/N):. Date: Set Up/ Sequence ID/ Operation Tool ID Tool # Plan Accept Reject Reject Work Center ID Description Qty Number Stamp Code Qty QC8- Inspect parts - second check Memo **Ouality Control** 140 Form as per dwg 0.00 *140* Brake NC 0.00 Memo Brake NC 150 QC5- Inspect part completeness to step on W/O 0.00 *150*

NCR:	Yes	7)	No
	_	./	

WORK ORDER NON-CONFORMANCE / UPDATE

Λ ,	* · (•
DQA: Date: /3///17	•	
	,	
A Closed: / / Date: //		

	QA Closed: / Date: / /										
Work Order	: 9	292	8		DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
	o. <u>(4</u> 4				Rework Scrap Use-as-is Work Order Update	The	Skid-tube Machining rmoforming Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
	— ()										
Root					ption of work order update	Initial		tion	Sign &		
Cause	Date	Step	Qty		or Non-conformance	Chief En	<u> </u>	ription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved		140	(ent is out of none parts red when ladies R.C. Process	,	# '	rap estroy replace	S1 12/4/22	15.1122	16 16 13 11 11
Landing	Goor				General F.	AULT CAT	EGORY				<u>-:</u> <u>-</u>
	Bending Centre No Cracks Crushed/ Cuffs Heat Trea	Crimped. it n Strip in		o/s	Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short	Instru	vare ction Incomplete ctions Incomplete/ tenance peled	-	Ovalized Over/Under Part Incorre Part Lost/M Part Moved Positioned V Power Loss/	ct sissing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
	Ripples in			<u> </u>	Drill Holes	Offset	•		X reco	better tool	ing
-	Torque W			` _	Drawing	\vdash	f Calibration				-
	Turning S	•		<u> </u>	Finish	\vdash	f Sequence				
1	Wave/Tw	ist in Tuk	26		IFolio	1 IOutsia	de Dimensions				

November-12-12 3:29:41 PM

Quality Control

Page 3

Item ID: 649.4811 Accept *N900040100* Setup Start Revision ID: Item Name: Clip **Start Date:** 12/11/2012 **Start Qty: 10.00 Cust Item ID: Required Date:** 03/12/2012 Req'd Qty: 10.00 **Customer:** Reference: Run Approvals: Process Plan: Date: Tooling: Date: QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Reject Accept Reject Insp. Work Center ID Description **Run Hours** Qty Code Qty Number Stamp Outsource process-Anodize per QSI017 4.1.10.1 0.00 *1ନበ* Outsource4 0.00 Memo Outsource process - Anodize HARD ANODIZE, COLOR BLACK AS PER DWG.(SEE NOTE 2) 170 Receive & Inspect for Damage & Mat'l Certs 0.00 *170* Packaging 0.00 Memo Packaging 180 QC5- Inspect part completeness to step on W/O 0.00 *120* 0.00 Memo

											DQA:	Date:	
NCR:	Yes	/ No				WORK ORDER NON-C	100	NFORM	MANCE / UPI	DATE			
											QA Closed:	Date:	
Work Ord	er.					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
TTOIN O. G.	-					Rework	1		Skid-tube	Crosstube	I	Water Jet	Engineering
Part I	No.					Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
'	-					Use-as-is	1		noforming	Finishing	4	re/Packaging	Other
NCR I	No.					Work Order Update			Large Fab	Composite		Supplier	
			r:								· · · · · · · · · · · · · · · · · · ·		
Root		_		_		ption of work order update		nitial		tion	Sign &	_	
Cause	_	Date	Step	Qty		or Non-conformance	Ch	ief Eng	Descr	ription	Date	Verification	QC Inspector
Doc/Data	Ш												
Equip/Tooling	Ц												
Operator	Ш]	
Material	Ш						ŧ						
Setup	Ш						ļ						
Other	Ш						ļ						
Process	Ш												
Supplier	Ш												
Training	Ш												
Unapproved							<u> </u>			·····			
							AUL	T CATE	GORY				
Landi						General		1			,	_	- 1
	\vdash	Bending			<u> </u>	Bend		Grain		_	Ovalized	<u>_</u>	Pressure/Forced
	Ш	Centre No	t Concer	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
	-	Cracks			<u> </u>	Broken/Damaged	<u></u>	Inspecti	on Incomplete		Part Incorre	ct	Weld
	Ш	Crushed/0	Crimped.		<u></u>	Burrs	<u></u>	Instruct	ions Incomplete/l	Jnclear	Part Lost/M	issing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance	L	Part Moved		
*3.		Heat Trea	t			Countersink		Mislabe	led		Positioned \	Wrong	_
· ·	1 1	Inspection	n Strin in	Tube		Cut Too Short	1	Misread	1		Powerloss	/Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Clip

OC:

Page 4

November-12-12 3:29:41 PM

Item ID: 649.4811 Revision ID:

Required Date: 03/12/2012

Accept

N900040100

Setup Start

Item Name: Start Date:

12/11/2012

Start Oty: 10.00 Reg'd Otv: 10.00 *10*

Cust Item 1D:

Customer:

Reference:

Approvals:

Process Plan:

Date: Date:

Tooling: SPC (Y/N):

Date: Date: Run

Sequence ID/ Work Center ID 190

Operation Description Set Up/ Run Hours

Tool ID

Tool # Plan Code Qty

Accept Oty

Reject Reject Number

Insp. Stamp

190

SprayPaint **Spray Painting** Memo

0.00

0.00

15 Ø Ø A8

PRIME IAW MIL-P-23377J TYPE1 CLASS N AS PER DWG. (SEE NOTE 2)

PRIMER BATCH: 123693

200

QC

QC14- Inspect Spray Paint

Memo

0.00

0.00

Quality Control

210

Identify as per dwg & Stock Location: 139H

210

Packaging

0.00

Packaging

IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV

(4 13/01/5

												DQA:	D:	ate: _	5
NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORM	MANCE / UP	DATE				-	*
											_	QA Closed:	D	ate:	
Work Ord	er.					DISPOSITION				AGAINST (ЭE	PARTMENT	/PROCESS		
Work Ora	C1.					Rework	٦		Skid-tube	Crosstube		1	Water Je	t	Engineering
Part	No.					Scrap	1 ,	1	Machining	Small Fab	_	Pro	d. Eng. Coor	\vdash	Quality
						Use-as-is	1	Thern	noforming	Finishing	_	Rec/Stor	re/Packaging	3	Other
NCR	No.					Work Order Update]		Large Fab	Composite]	Supplie	r	
		1		· · · · ·	I .		1				_	T -: -		 -	
Root					1	ption of work order update	1	Initial		tion		Sign &		ı	
Cause	_	Date	Step	Qty	(or Non-conformance	Ch	nief Eng	Desc	ription		Date	Verification	on	QC Inspector
Doc/Data	<u> </u>										1			-	
Equip/Tooling	<u></u>	ļ							•					1	
Operator	<u> </u>				i										
Material	<u> </u>														
Setup	<u> </u>														
Other	L													•	-
Process							1								
Supplier	$oxed{oxed}$														
Training														1	
Unapproved			<u> </u>		i										
		•				F	AUL	T CATE	GORY						
Landi	ng (Gear				General		_		_		_			
		Bending				Bend		Grain				Ovalized			Pressure/Forced
		Centre No	t Concer	ntric to	o/s	BOM/Route		Hardwa	re			Over/Under	tolerance		Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete			Part Incorre	ct		Weld
ļ		Crushed/0	Crimped.			Burrs		Instruct	ions Incomplete/	Unclear		Part Lost/Mi	ssing		Wrong Stock Pulled
l		Cuffs				Contamination		Mainte	nance	Ī		Part Moyed			•

Mislabeled

Out of Calibration

Out of Sequence

Outside Dimensions

Misread

Offset

Positioned Wrong

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

November-12-12 3:29:41 PM

Page 5

Item ID: 649.4811 Accept *N900040100* Setup Start **Revision ID:** Item Name: Clip Start Date: *10* 12/11/2012 **Start Oty: 10.00** Cust Item ID: **Required Date:** 03/12/2012 Reg'd Otv: 10.00 **Customer:** Reference: Run Approvals: Process Plan: Date: Tooling: Date: Stop QC: SPC (Y/N): Date: Date: Sequence ID/ Operation Tool ID Set Up/ Reject Reject Tool # Plan Accept Insp. Work Center ID Description Run Hours Code Qty Qty Number Stamp 220 QC21- Final Inspection - Work Order Release 0.00 *220* 0.00 Memo Quality Control

> M4 13-01-09

											DQA:	Date	
NCR:	Yes	/ No				WORK ORDER NON-O	CO	NFORM	MANCE / UP	DATE			•
											QA Closed:	Date	
Work Orde	er:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part N	Use-as-is Work Order Update							Therm	Skid-tube Crosstube Water Jet Machining Small Fab Prod. Eng. Coor. Thermoforming Finishing Rec/Store/Packaging Supplier nitial Action Sign &				
Root					Descri	otion of work order update		nitial	Act	ion	Sign &		
Cause		Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Desci	ription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved													
				<u> </u>		F	AUL	T CATE	GORY				
Landi		Bending Centre No Cracks Crushed/O Cuffs	Crimped.		o/s	General Bend BOM/Route Broken/Damaged Burrs Contamination		Instruct Mainte	on Incomplete ions Incomplete/I nance		Ovalized Over/Under Part Incorre Part Lost/M Part Moved	ct	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled
	-	Heat Trea		Tub~	-	Countersink	-	Mislabe		<u> </u>	Positioned V		7045-1
		Inspection Ripples in		iube		Cut Too Short Drill Holes		Misread Offset	l	<u></u>	Power Loss/	Surge	Other

Out of Calibration

Outside Dimensions

Out of Sequence

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Picklist Print

November-12-12 3:29:44 PM

Work Order ID: 92928

649.4811

Parent Item Name: Clip

92928

649 4811

Start Date: 12/11/2012

Required Date: 03/12/2012

Page 1

Start Qty: 10.00

Required Qty: 10.00

Comments:

Parent Item:

IPP REV:A 12.11.01 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.063		Purchased	No			110	sf	112.4200	0.068	0.715789			
M2024T3	35 063								**			D11 -1	1-17

2024-T3 .063 sheet

Location	Loc Qty	Loc Code
MAT022	112.42	
119916	0.1	
121197	16.32	
123654	96	

									DQA:	Date:	
NCR: Y	res / No				WORK ORDER NON-C	ONFOR	MANCE / UPI	DATE			•
									QA Closed:	Date:	
Work Orde	er:				DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part N	No				Rework Scrap Use-as-is Work Order Update	1	Skid-tube Machining moforming Large Fab	Crosstube Small Fab Finishing Composite	1	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root				Descri	ption of work order update	Initial	Act	tion	Sign &		
Cause	Date	Step	Qty		or Non-conformance	Chief Eng	Desci	ription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved							·				
	<u></u>	-1			F.	AULT CATE	GORY		l		
Landir	ng Gear				General						
		ot Conce	ntric to (D/S	Bend BOM/Route	Grain Hardwa			Ovalized Over/Under	tolerance	Pressure/Forced Temperature/Cure
	Cracks			<u> </u>	Broken/Damaged	—	ion Incomplete		Part Incorre		Weld
		/Crimped			Burrs		tions Incomplete/l	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
ļ	Cuffs			_	Contamination	Mainte			Part Moved		
	Heat Tre				Countersink	Mislabe			Positioned V		7
ļ		n Strip in	Tube		Cut Too Short	Misrea	d		Power Loss/	Surge	Other
	Ripples in	n Bend			Drill Holes	Offset					

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

DART AEROSPACE LTD	Work Order:	92428
Description: CLID	Part Number:	649-4811
Inspection Dwg: 644-484 Rev: A		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.914	4 -008	1.915	<i>y</i>			
,063	7 .005	1064	2	3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		

		<u>, , , , , , , , , , , , , , , , , , , </u>				
				· .	÷	
						•
				1 1		
,				1		
						÷
				.:		

Measured by: B	Audited by: 15	Preliminary Approval:
Date: 12-11-17	Date: 10-17919	Date:

Rev	Date	Change	٠.	Revised by	Approved
E	10.04.14	Added preliminary approval		KJ .	





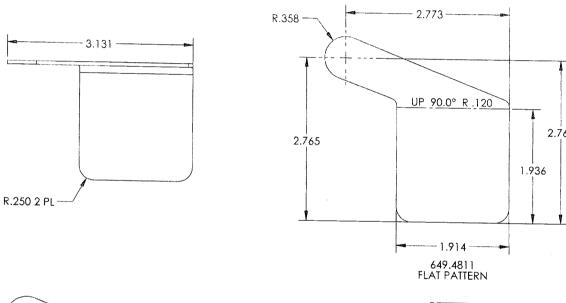
AS MATERIA. ASUMINUM 2004-T3 PER AMS-QQ-A-25074

FINSH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK-PRETREAT PR-148 ADHES ON PROMOTER PRIME IAW MIL-P-23377 J, TYPE I, CLASS N

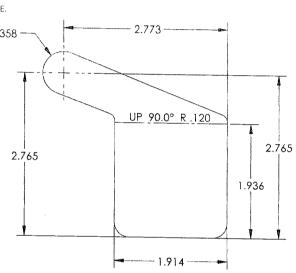
- 3. DEBURR AND BREAK ALL SHARP EDGES
- 4. IDENTIFY IAW MPP-120. LASER ETCH P/N AND REVISION 12PT, CENTURY GOTHIC.

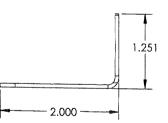
25 PART DIMENSIONS CONTROLLED BY CAD MODEL; FILE NAME: 649.4816 DOUBLER.SLDPRT

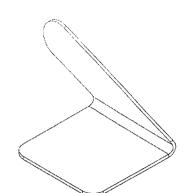
6. INSPECTION DIMENSIONS SHOWN WITH FINISH APPROX. 3-5 MIL MAX PER FACE.



.063







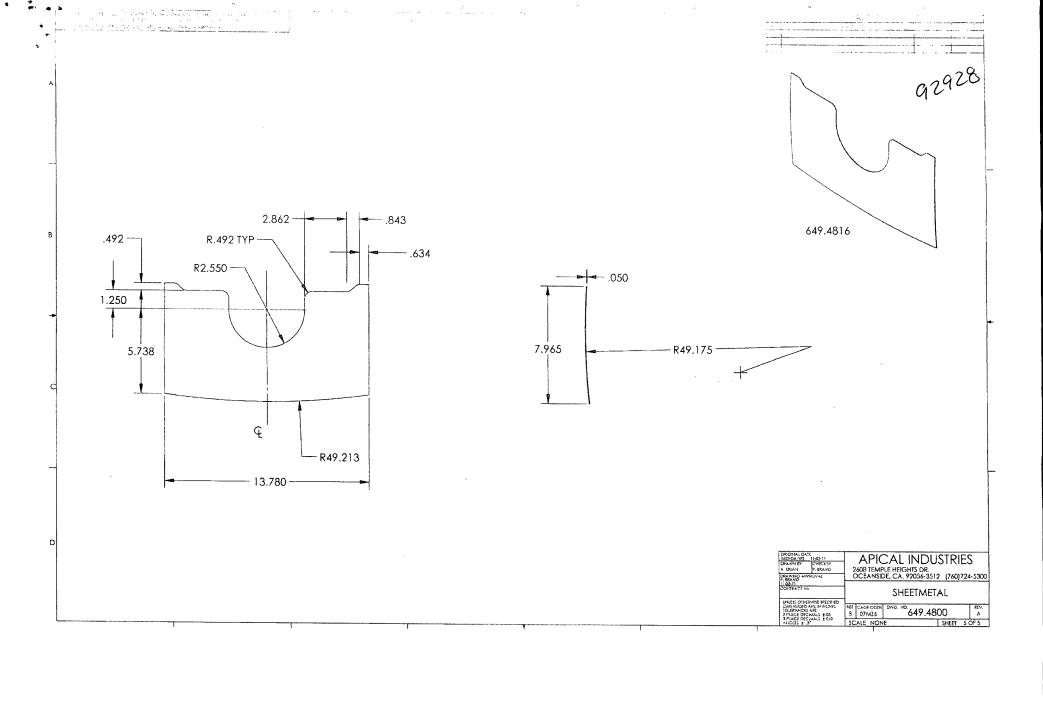
649.4811

SHOP COPY RETURN TO ENGINEERING UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE

WORK ORDER NO. 92928 MLJ

12-11-13

	_											
			7	649.481	6	DOUBLER		Zì	7	2	3	
	<u> </u>		6	649.481	5	SHIM			7	Z2	7	
			5	649.48	4	DOUBLER			Δ .	1	7	
	L.		4	649.48	3	SHIM		7	7	∠ 2	7	
			3	649.481	2	SHIM		Δ	7	Z2		
	<u>L</u> .		2	649.481	1	CLIP			7	1	7	
			1			DELETED						
	<u> </u>	FIN	1D#	PART :	# C	DESCRIPTION		MA	T'L	SPE	C.	
	QTY					PARTS LIST						
	MEAI ASST (S) DEARNING AGENT (ACCOMPAGE OF THE ACCOMPAGE OF THE ACCO		CHECKEH APIC 2608 TEMPL		LE HEIG	AL INDUSTRIES E HEIGHTS DR.						
					OCEANSIDE, CA. 92056-3512 (760)724-5300 SHEETMETAL							
			TOXERATIONS A TOXERATIONS OF 2 PLACE DECT	ARE. WALS ± 50 WALS ± 010	SE CAGE CODE	DWG. NO		800		REV.		
				1 000003 2 2	ANGLES & &*		SCALE NONE			SHEET LOF 5		





A.T.G. Industries Inc. 731, rue Industrielle Rd. PLATING DEPARTMENT Rockland, On K4K 1T2 Canada

Ph: (613) 446-4544 Fax: (613) 446-4556

Pack List

Number: 62107

Date: 12-Dec-12

Ship To

DART AEROSPACE LTD 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7

Canada

То

DART AEROSPACE LTD 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7 Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

n: 613-632-52	700 Fax: 613-632-1185	•	Ph: 613-632-5200	Fax: 613-632-1185					
erms		Ship Via							
	:								
Quantity	Description								
1	Part: ASST		Rev:						
lot	The state of the s								
•	8 PCS 647.1610								
	5 PCS 647.1612								
	2 PCS 647.1713 6 PCS 647.1811								
	1 PC 647.1816		•	·					
	PC 647.1817								
	8 PCS 647.1818								
	11 PCS 646.3210								
	20 PCS 646.3313 10 PCS 646.3717	•							
	20 PCS 646.3717								
	16 Pes 647,4610								
ر	10 PCS 649.4811								
	10 PCS 649.4812								
,	24 PCS 649.4814 30 PCS 649.4815								
	6 PCS 647.7913								
	3 PCS 647.7919		,						
	10 PCS 647.9010								
	10 PCS 647.9011								
	15 PCS 647.9012								
	40 PCS 647.9013 60 PCS 646.9710								
	1 60 FC3 048.97 10								
	HARD ANODIZE BLACK								
	MIL-A-8625 TYPE III CLASS 2								
	Job: 20120768	PO: PO18506	Line:						
	Certificate of Co	nformance							
	H								
	A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order.								
	ISO 9001 : 2008 REGISTERED ATG SALES-2010 TERMS APPLY								
		ENTO ALFEI	/						
	DATE: 12/12/12	•							



A.T.G. Industries Inc. 731, rue Industrielle Rd. PLATING DEPARTMENT Rockland, On K4K 1T2 Canada

Ph: (613) 446-4544 Fax: (613) 446-4556

Pack List

Number: 62107

Date: 12-Dec-12

Ship To

DART AEROSPACE LTD 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7

Canada

То

DART AEROSPACE LTD 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7 Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms Ship Via Quantity Description CERTIFIED SIGNATURE: RECEIVER SIGNATURE :